INTEGRATED TRAINING AREA MANAGEMENT
ITAM Learning Module
LCTA Scenario

Probability of Weekly Precipitation and Climate Diagrams

Recommended Reading

ITAM Technical Reference Manual:
- Chapter 8: *Structured Query Language (SQL)*
- Chapter 11: *Data Analysis and Interpretation*

ITAM Learning Module Notes:
- *Creating SQL Statements in Quest*
- *Generating Graphs in Microsoft Excel*
- *Creating a Pivot Table in Microsoft Excel*

Diersing, V.E., Courson, J.A., Warren, S.D., Tazik, D.J., Shaw, R.B. and E.W. Novak. 1990. *A Climatic Basis for Planning Military Training Operations and Land Maintenance Activities*. USACERL Technical Report N-90/13, June 1990. Champaign, IL.

Background

Historical data can be used to predict the likelihood of climatic and soil moisture conditions during the course of the year. If training exercises, especially those involving mechanized vehicles, are scheduled during periods of wet soils, then vegetation loss, soil compaction, and erosion losses are likely to be relatively high compared to periods of drier or frozen soils. Several graphic tools have been developed to help understand seasonal patterns of precipitation and soil moisture. Two of these are: 1) probability of weekly precipitation graphs, and 2) climatic diagrams developed by Walter (1985) and modified for applications in military land management (Diersing et al. 1990).

Probability of weekly precipitation graphs and climate diagrams are not difficult to construct. The difficulty often is managing the large amounts of data that climate observations can produce. Here we will focus on the manipulation of data creating these diagrams and interpreting the results.

Problem Statement

What are the best times of the year to train on Fort USA that will minimize damage to training areas?

Acquire Ddata

In this scenario we will develop the data needed to generate probability of precipitation graphs and a climate diagram. Fort USA has 31 years of daily climate data, which is stored in the DailyClimate table of the database. The table has the following data elements:

Data Element	Description
RecDate	recording date
Week_Num	week number
Precip_Inches	precipitation in inches
Temp_F	average temperature in degrees Fahrenheit

This table is representative of data that is available to installations from a variety of sources. Many installations collect climate data on a regular basis, especially if an air field is present on the base. Other sources of climate data include:

Western Regional Climate Center (http://www.wrcc.sage.dri.edu/index.html)
National Climatic Data Center (http://www.ncdc.noaa.gov/ol/ncdc.html)

These sources will probably not have data from military installations but you might find data for a nearby location that is useful.

The week number is found by consulting the table below.

Week	Start Date	End Date	Week	Start Date	End Date
1	Jan 1	Jan 7	27	Jul 2	Jul 8
2	Jan 8	Jan 14	28	Jul 9	Jul 15
3	Jan 15	Jan 21	29	Jul 16	Jul 22
4	Jan 22	Jan 28	30	Jul 23	Jul 29
5	Jan 29	Feb 4	31	Jul 30	Aug 5
6	Feb 5	Feb 11	32	Aug 6	Aug 12
7	Feb 12	Feb 18	33	Aug 13	Aug 19
8	Feb 19	Feb 25	34	Aug 20	Aug 26
*9	Feb 26	Mar 4	35	Aug 27	Sep 2
10	Mar 5	Mar 11	36	Sep 3	Sep 9
11	Mar 12	Mar 18	37	Sep 10	Sep 16
12	Mar 19	Mar 25	38	Sep 17	Sep 23
13	Mar 26	Apr 1	39	Sep 24	Sep 30
14	Apr 2	Apr 8	40	Oct 1	Oct 7
15	Apr 9	Apr 15	41	Oct 8	Oct 14
16	Apr 16	Apr 22	42	Oct 15	Oct 21
17	Apr 23	Apr 29	43	Oct 22	Oct 28
18	Apr 30	May 6	44	Oct 29	Nov 4
19	May 7	May 13	45	Nov 5	Nov 11
20	May 14	May 20	46	Nov 12	Nov 18
21	May 21	May 27	47	Nov 19	Nov 25
22	May 28	Jun 3	48	Nov 26	Dec 2
23	Jun 4	Jun 10	49	Dec 3	Dec 9

Week	Start Date	End Date	Week	Start Date	End Date
24	Jun 11	Jun 17	50	Dec 10	Dec 16
25	Jun 18	Jun 24	51	Dec 17	Dec 23
26	Jun 25	Jul 1	**52	Dec 24	Dec 31

* * 8 Day Period During Leap-Year
** 8 Day Period

It is not common to find climate data with the week numbers designated. Utilizing Structured Query Language (SQL) statements in a database can greatly facilitate the process of assigning week numbers to dates. This process is explained below for both Centura SQLBase and Microsoft Access.

You will find the required statements for SQLBase in Appendix 1. These statements are executed from a new SQL window in Quest, the SQLBase interface tool. Refer to the ITAM Learning Module Note, *Creating SQL Statements in Quest*, for more information. To use these statements for your database, copy them from the ITAM Learning Module web page and paste them into a new SQL window.

Microsoft Access does not allow the creation of script files (multiple SQL statements in one query). Instead, the SQL statements are changed to RUNSQL function calls, which are added to an Access module as a function, then a macro is created to call the function containing the statements. Appendix 2 contains the SQL statements converted to RUNSQL function calls. Create a new module in Access and insert a user-defined function. Paste the statements from Appendix 2 into this function between the Function and End Function lines. Next create a new macro that will have three actions as described in the table below.

Action	Action Setting
SetWarnings	No
RunCode	name of function created above
SetWarnings	Yes

The first SetWarnings action will turn off user verification of each query, RunCode will run the actual function containing the SQL statements, and the last SetWarnings action will turn user verification back on. The final step is to execute the macro. You may want to consult the Access documentation for more information on modules and macros.

Two different sets of data are required to produce the probability of precipitation graphs and the climate diagram. The probability graphs use average weekly precipitation data while the climate diagram will use average monthly temperature and average monthly total precipitation. We will use Microsoft Excel to generate the desired summaries of the data. The data in the DailyClimate database table was exported to a dBase file, which was then opened using Microsoft Excel.

Perform Procedures

The procedures for generating probability of precipitation graphs and climate diagrams are described separately below.

Probability of Precipitation

Our task here is to generate four probabilities of precipitation graphs. These graphs will show the probability of receiving a given amount of rain each week of the year. We will generate graphs for the probabilities of no precipitation, precipitation in excess of 0.5 inch, 1.0 inch, and 2.0 inches.

Before summarizing the data we will add two columns to the data, year and month. These values are easily obtained from the RecDate column by using the Excel YEAR() and MONTH() functions.

The first step is to obtain total weekly precipitation for each week and year. Recall that the climate data for Fort USA is daily data. We will take advantage of Excel's Pivot Table tool to summarize the data. Refer to the ITAM Learning Module Note, *Creating a Pivot Table in Microsoft Excel*, for information on using this tool. Create a pivot table designating Year as the row, Week_Num as the column, and Precipitation_Inches as the data. The Sum summary was used for the Precipitation_Inches data. Below is a partial listing of the resulting pivot table.

Sum of PRECIP_INCHES	WEEK_NUM				
Year	**1**	**2**	**3**	**4**	…
1965	0.1	0.001	0.001	0.021	…
1966	0.001	0.02	0.111	0.001	…
1967	0.011	0.281	0.192	0.363	…
1968	0.031	0	0	0.48	…
1969	0.011	0.05	0.002	0.112	…
1970	0.061	0	0.003	0.04	…
…	…	…	…	…	…

Often a moving average is used to "smooth out" the values, but was not done here. A 3-week moving average is common. Moving averages, using the mean of the previous, current, and subsequent weekly values for the current value, reduce meaningless fluctuations in the probability curve.

The above table represents the total precipitation in inches for each of the 52 weeks for 31 years (1965-1995). Next, we will calculate the probability of each desired event. This is done by counting the number of years each week receives a given amount of precipitation and dividing by the total number of years. The Excel function COUNTIF() was applied to the results of the pivot table above to generate the probabilities. The table below shows the probabilities.

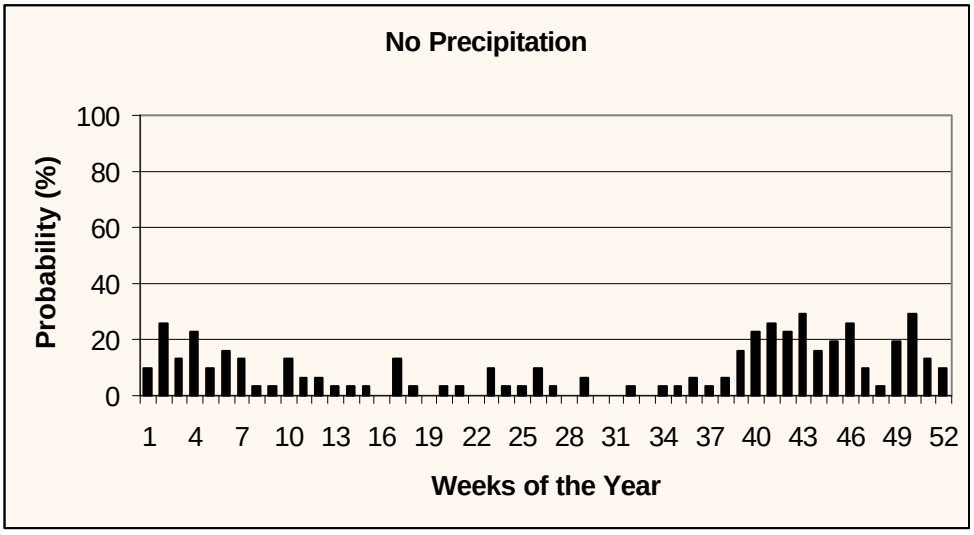
	1	2	3	4	…
0	9.68	25.81	12.90	22.58	…
>.5	3.23	0.00	9.68	3.23	…
>1	0.00	0.00	0.00	0.00	…
>2	0.00	0.00	0.00	0.00	…

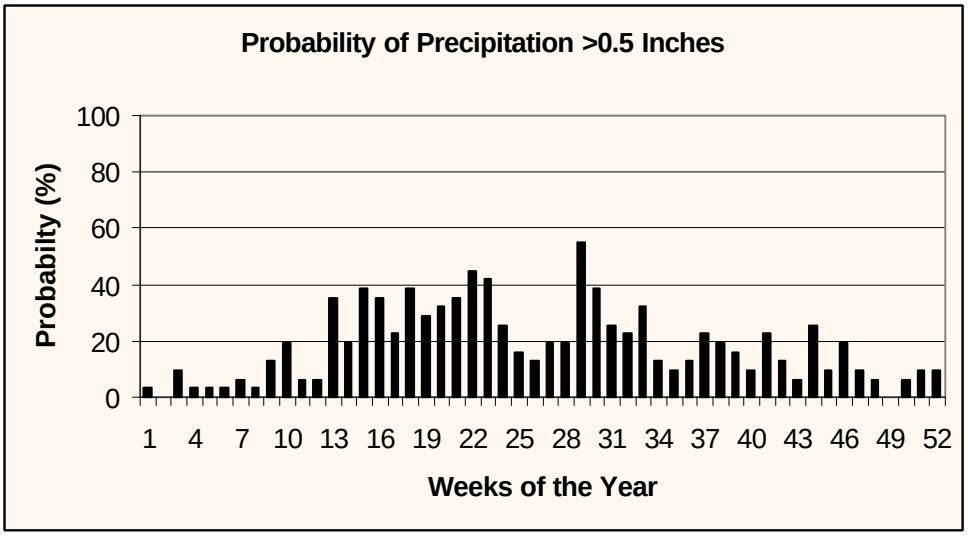
The probabilities were generated using the following Excel formula:

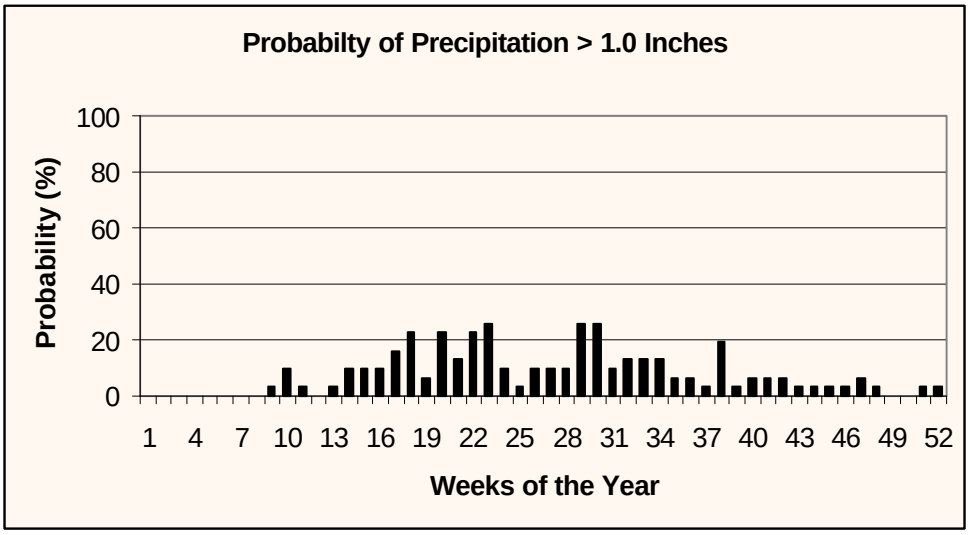
=COUNTIF($B3:B$33,0)/31*100
=COUNTIF($B3:B$33,">0.5")/31*100
=COUNTIF($B3:B$33,">1.0")/31*100
=COUNTIF($B3:B$33,">2.0")/31*100

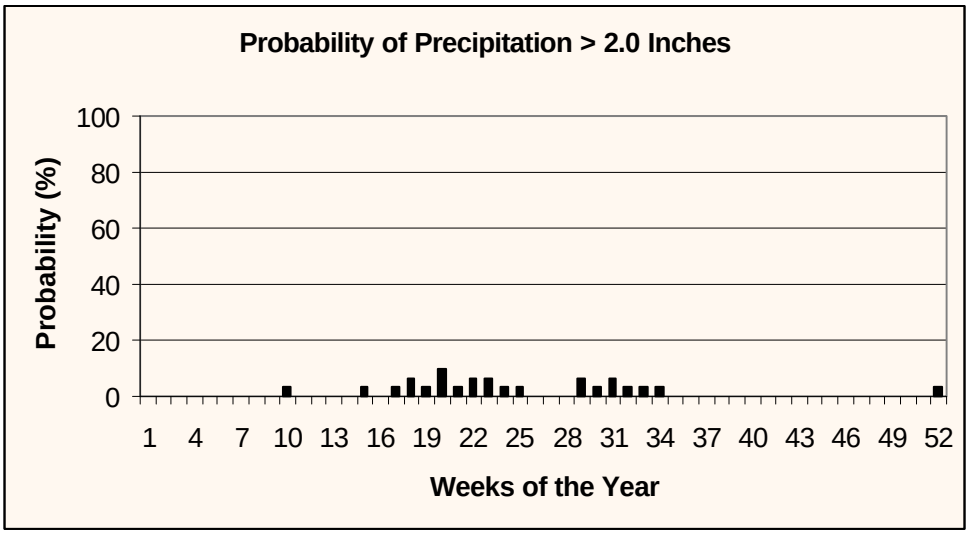
The COUNTIF() function counts the number of cells in a given range that meets the defined criteria. The first formula represents the probability of no precipitation. The range ($B3:B$33) corresponds to the first weeks data from the pivot table. 31 is the total number of years of data. The second, third, and fourth formulas represent the probabilities of precipitation in excess of 0.5 inch, 1.0 inch, and 2.0 inches respectively. The above formulas were entered in the first column of the table above and then copied across the table to fill in the rest of the values.

The final step is to create the graphs. The entire probability table is highlighted as the input data for the first graph. Four bar charts are created to display the data. In step two of the chart wizard remove the series that are not to be displayed (i.e. for the no precipitation graph remove the series for >0.5, >1.0, and > 2.0. The probability graphs are shown below.




Probability of Precipitation >0.5 Inches
Probability (%)
100
80
60
40
20
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52
Weeks of the Year


Probabilty of Precipitation > 1.0 Inches
Probability (%)
100
80
60
40
20
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52
Weeks of the Year


Probability of Precipitation > 2.0 Inches
Probability (%)
100
80
60
40
20
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52
Weeks of the Year

Climate Diagram

The amount of precipitation received and the temperature influence soil moisture. A climate diagram can add insight to this relationship by: relating temperature and precipitation such that average soil moisture conditions are represented, graphically illustrating length of growing season and period of frozen soils, and characterizing average monthly precipitation and temperature. The climate diagram can be used to improve the land management process and reduce the risk of environmental damage.

Average monthly precipitation and temperatures are needed for the construction of the climate diagram. Our first step is to produce monthly averages for 31 years of daily data. This is a one-step process for temperature and a two-step process for precipitation.

Create a pivot table from the daily climate data designating Month for the rows and the average of Temp_F as the data. No subtotals or grand totals are needed for this pivot table. Create a second pivot table designating Month for the rows, Year for the columns, and the sum of Precip_Inches for the data. This pivot table contains monthly totals for all months and years but we need average monthly precipitation, which is done in a separate table.

Month	Temp (C)	Precip (mm)
J	-0.87	12.84
F	1.11	14.13
M	4.42	31.94
A	8.99	46.49
M	14.01	61.13
J	19.60	44.07
J	22.91	51.44
A	21.97	40.08
S	16.93	29.85
O	10.57	27.48
N	3.65	25.09
D	-0.44	16.11

Construct a table similar to that above where a row is created for each month, which uses the first letter of the month instead of numbers (1-12). Traditionally climate diagrams present temperature in degrees Celsius and precipitation in millimeters. The following formula was used to convert average monthly temperature in degrees Fahrenheit to degrees Celsius:

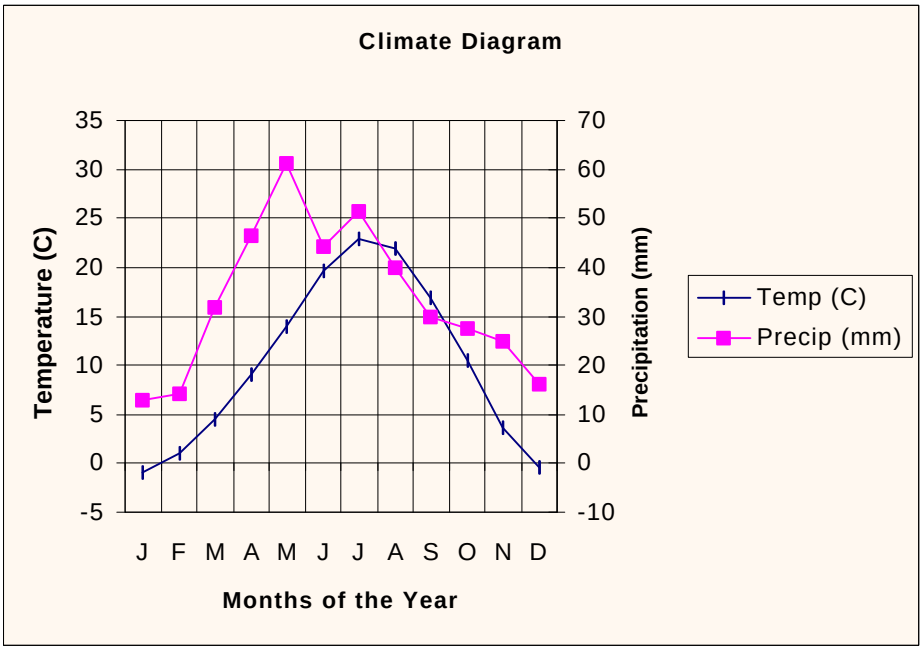
$$=(B3 - 32) * 5/9$$

where B3 is the cell reference of the monthly average temperature from the pivot table created above. Cell references may be different on your system. Copy this equation down the remaining rows of the table. The formula for the precipitation column is:

$$=AVERAGE(B19:AF19)*25.4$$

where B19:AF19 refers to the cell references of the monthly totals in the second pivot table created above. The average is then multiplied by 25.4 to convert to millimeters (1" = 25.4 mm). Again, cell references may be different on your system. The formula is copied down the remaining rows of the table.

This table is used to produce the climate diagram. You will notice that after initially creating the diagram there is only one Y-axis, we need one for temperature and one for precipitation. Select the precipitation data series by single-clicking your mouse on one of the precipitation data points in the graph. Select [Format] from the main menu then [Selected Data Series…] from the submenu. In the resulting dialog box select the Axis tab and then the Secondary Axis option. Finally, scale the graph so that 1 °C = 2 mm. Select the temperature axis, select [Format] from the main menu then [Selected Axis…] from the submenu. Select the Scale tab and enter 35 and -5 for maximum and minimum, respectively. Repeat this process for precipitation, using 70 and -10 for the maximum and minimum respectively.



Interpretation of this diagram is fairly straightforward. If the temperature curve is above the precipitation curve, conditions are on the arid end of the spectrum; if the precipitation curve is above the temperature curve, conditions are more humid. Vertical distance between the curves represents the intensity of humid or arid conditions and the horizontal distances represents the duration of these conditions.

Conclusions

The climate diagram shows that the drier conditions for Fort USA occur during August and September. June and July are technically considered humid, but the small vertical distance between the temperature and precipitation curves suggests that soil moisture should be low. The heavy humid period occurs in May.

If we consult the probability of precipitation graphs we find that the probability of heavy weekly rain fall is somewhat high for the drier months June, July, August, and September (weeks 23-39). This probably represents individual high-intensity rain events during this time period.

Recommendation

The best time to schedule heavy mechanized training, with regard to minimizing damage, is during the months of June, July, August, and September. Keep in mind, summer thunderstorm events producing considerable precipitation can occur during these month. A second training period for consideration is December through February, since soil moisture is low and soils are most likely frozen or partially frozen.

In terms of land management, the optimum time periods for seeding and tree and shrub planting are during the months of March, April, and May. The arid period, August and September, may be the best times to acquire cloud-free satellite imagery or aerial photography.

References

Diersing, V.E., Courson, J.A., Warren, S.D., Tazik, D.J., Shaw, R.B. and E.W. Novak. 1990. A Climatic Basis for Planning Military Training Operations and Land Maintenance Activities. USACERL Technical Report N-90/13, June 1990. Champaign, IL.

Appendix 1:

```
Update DailyClimate set Week_Num = 1 where (@month(recdate) = 1 and @day(recdate) >= 1) and
(@month(recdate) = 1 and @day(recdate) <=7);
Update DailyClimate set Week_Num = 2 where (@month(recdate) = 1 and @day(recdate) >= 8) and
(@month(recdate) = 1 and @day(recdate) <=14);
Update DailyClimate set Week_Num = 3 where (@month(recdate) = 1 and @day(recdate) >= 15) and
(@month(recdate) = 1 and @day(recdate) <=21);
Update DailyClimate set Week_Num = 4 where (@month(recdate) = 1 and @day(recdate) >= 22) and
(@month(recdate) = 1 and @day(recdate) <=28);
Update DailyClimate set Week_Num = 5 where (@month(recdate) = 1 and @day(recdate) >= 29);
Update DailyClimate set Week_Num = 5 where (@month(recdate) = 2 and @day(recdate) <=4);
Update DailyClimate set Week_Num = 6 where (@month(recdate) = 2 and @day(recdate) >= 5) and
(@month(recdate) = 2 and @day(recdate) <=11);
Update DailyClimate set Week_Num = 7 where (@month(recdate) = 2 and @day(recdate) >= 12) and
(@month(recdate) = 2 and @day(recdate) <=18);
Update DailyClimate set Week_Num = 8 where (@month(recdate) = 2 and @day(recdate) >= 19) and
(@month(recdate) = 2 and @day(recdate) <=25);
Update DailyClimate set Week_Num = 9 where (@month(recdate) = 2 and @day(recdate) >= 26);
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Update DailyClimate set Week_Num = 9 where (@month(recdate) = 3 and @day(recdate) <= 4);
Update DailyClimate set Week_Num = 10 where (@month(recdate) = 3 and @day(recdate) >= 5) and
(@month(recdate) = 3 and @day(recdate) <=11);
Update DailyClimate set Week_Num = 11 where (@month(recdate) = 3 and @day(recdate) >= 12) and
(@month(recdate) = 3 and @day(recdate) <=18);
Update DailyClimate set Week_Num = 12 where (@month(recdate) = 3 and @day(recdate) >= 19) and
(@month(recdate) = 3 and @day(recdate) <=25);
Update DailyClimate set Week_Num = 13 where (@month(recdate) = 3 and @day(recdate) >= 26);
Update DailyClimate set Week_Num = 13 where (@month(recdate) = 4 and @day(recdate) <=1);
Update DailyClimate set Week_Num = 14 where (@month(recdate) = 4 and @day(recdate) >= 2) and
(@month(recdate) = 4 and @day(recdate) <=8);
Update DailyClimate set Week_Num = 15 where (@month(recdate) = 4 and @day(recdate) >= 9) and
(@month(recdate) = 4 and @day(recdate) <=15);
Update DailyClimate set Week_Num = 16 where (@month(recdate) = 4 and @day(recdate) >= 16) and
(@month(recdate) = 4 and @day(recdate) <=22);
Update DailyClimate set Week_Num = 17 where (@month(recdate) = 4 and @day(recdate) >= 23) and
(@month(recdate) = 4 and @day(recdate) <=29);
Update DailyClimate set Week_Num = 18 where (@month(recdate) = 4 and @day(recdate) >= 30);
Update DailyClimate set Week_Num = 18 where (@month(recdate) = 5 and @day(recdate) <=6);
Update DailyClimate set Week_Num = 19 where (@month(recdate) = 5 and @day(recdate) >= 7) and
(@month(recdate) = 5 and @day(recdate) <=13);
Update DailyClimate set Week_Num = 20 where (@month(recdate) = 5 and @day(recdate) >= 14) and
(@month(recdate) = 5 and @day(recdate) <=20);
Update DailyClimate set Week_Num = 21 where (@month(recdate) = 5 and @day(recdate) >= 21) and
(@month(recdate) = 5 and @day(recdate) <=27);
Update DailyClimate set Week_Num = 22 where (@month(recdate) = 5 and @day(recdate) >= 28);
Update DailyClimate set Week_Num = 22 where (@month(recdate) = 6 and @day(recdate) <=3);
Update DailyClimate set Week_Num = 23 where (@month(recdate) = 6 and @day(recdate) >= 4) and
(@month(recdate) = 6 and @day(recdate) <=10);
Update DailyClimate set Week_Num = 24 where (@month(recdate) = 6 and @day(recdate) >= 11) and
(@month(recdate) = 6 and @day(recdate) <=17);
Update DailyClimate set Week_Num = 25 where (@month(recdate) = 6 and @day(recdate) >= 18) and
(@month(recdate) = 6 and @day(recdate) <=24);
Update DailyClimate set Week_Num = 26 where (@month(recdate) = 6 and @day(recdate) >= 25);
Update DailyClimate set Week_Num = 26 where (@month(recdate) = 7 and @day(recdate) <=1);
Update DailyClimate set Week_Num = 27 where (@month(recdate) = 7 and @day(recdate) >= 2) and
(@month(recdate) = 7 and @day(recdate) <=8);
Update DailyClimate set Week_Num = 28 where (@month(recdate) = 7 and @day(recdate) >= 9) and
(@month(recdate) = 7 and @day(recdate) <=15);
Update DailyClimate set Week_Num = 29 where (@month(recdate) = 7 and @day(recdate) >= 16) and
(@month(recdate) = 7 and @day(recdate) <=22);
Update DailyClimate set Week_Num = 30 where (@month(recdate) = 7 and @day(recdate) >= 23) and
(@month(recdate) = 7 and @day(recdate) <=29);
Update DailyClimate set Week_Num = 31 where (@month(recdate) = 7 and @day(recdate) >= 30);
Update DailyClimate set Week_Num = 31 where (@month(recdate) = 8 and @day(recdate) <=5);
Update DailyClimate set Week_Num = 32 where (@month(recdate) = 8 and @day(recdate) >= 6) and
(@month(recdate) = 8 and @day(recdate) <=12);
Update DailyClimate set Week_Num = 33 where (@month(recdate) = 8 and @day(recdate) >= 13) and
(@month(recdate) = 8 and @day(recdate) <=19);
Update DailyClimate set Week_Num = 34 where (@month(recdate) = 8 and @day(recdate) >= 20) and
(@month(recdate) = 8 and @day(recdate) <=26);
Update DailyClimate set Week_Num = 35 where (@month(recdate) = 8 and @day(recdate) >= 27);
Update DailyClimate set Week_Num = 35 where (@month(recdate) = 9 and @day(recdate) <=2);
Update DailyClimate set Week_Num = 36 where (@month(recdate) = 9 and @day(recdate) >= 3) and
(@month(recdate) = 9 and @day(recdate) <=9);
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Update DailyClimate set Week_Num = 37 where (@month(recdate) = 9 and @day(recdate) >= 10) and (@month(recdate) = 9 and @day(recdate) <=16);
Update DailyClimate set Week_Num = 38 where (@month(recdate) = 9 and @day(recdate) >= 17) and (@month(recdate) = 9 and @day(recdate) <=23);
Update DailyClimate set Week_Num = 39 where (@month(recdate) = 9 and @day(recdate) >= 24) and (@month(recdate) = 9 and @day(recdate) <=30);
Update DailyClimate set Week_Num = 40 where (@month(recdate) = 10 and @day(recdate) >= 1) and (@month(recdate) = 10 and @day(recdate) <=7);
Update DailyClimate set Week_Num = 41 where (@month(recdate) = 10 and @day(recdate) >= 8) and (@month(recdate) = 10 and @day(recdate) <=14);
Update DailyClimate set Week_Num = 42 where (@month(recdate) = 10 and @day(recdate) >= 15) and (@month(recdate) = 10 and @day(recdate) <=21);
Update DailyClimate set Week_Num = 43 where (@month(recdate) = 10 and @day(recdate) >= 22) and (@month(recdate) = 10 and @day(recdate) <=28);
Update DailyClimate set Week_Num = 44 where (@month(recdate) = 10 and @day(recdate) >= 29);
Update DailyClimate set Week_Num = 44 where (@month(recdate) = 11 and @day(recdate) <=4);
Update DailyClimate set Week_Num = 45 where (@month(recdate) = 11 and @day(recdate) >= 5) and (@month(recdate) = 11 and @day(recdate) <=11);
Update DailyClimate set Week_Num = 46 where (@month(recdate) = 11 and @day(recdate) >= 12) and (@month(recdate) = 11 and @day(recdate) <=18);
Update DailyClimate set Week_Num = 47 where (@month(recdate) = 11 and @day(recdate) >= 19) and (@month(recdate) = 11 and @day(recdate) <=25);
Update DailyClimate set Week_Num = 48 where (@month(recdate) = 11 and @day(recdate) >= 26);
Update DailyClimate set Week_Num = 48 where (@month(recdate) = 12 and @day(recdate) <=2);
Update DailyClimate set Week_Num = 49 where (@month(recdate) = 12 and @day(recdate) >= 3) and (@month(recdate) = 12 and @day(recdate) <=9);
Update DailyClimate set Week_Num = 50 where (@month(recdate) = 12 and @day(recdate) >= 10) and (@month(recdate) = 12 and @day(recdate) <=16);
Update DailyClimate set Week_Num = 51 where (@month(recdate) = 12 and @day(recdate) >= 17) and (@month(recdate) = 12 and @day(recdate) <=23);
Update DailyClimate set Week_Num = 52 where (@month(recdate) = 12 and @day(recdate) >= 24) and (@month(recdate) = 12 and @day(recdate) <=31);
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Appendix 2:

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docmd.runsql "Update DailyClimate set Week_Num = 1 where (month(recdate) = 1 and day(recdate) >= 1) and (month(recdate) = 1 and day(recdate) <=7);
docmd.runsql "Update DailyClimate set Week_Num = 2 where (month(recdate) = 1 and day(recdate) >= 8) and (month(recdate) = 1 and day(recdate) <=14);"
docmd.runsql "Update DailyClimate set Week_Num = 3 where (month(recdate) = 1 and day(recdate) >= 15) and (month(recdate) = 1 and day(recdate) <=21);"
docmd.runsql "Update DailyClimate set Week_Num = 4 where (month(recdate) = 1 and day(recdate) >= 22) and (month(recdate) = 1 and day(recdate) <=28);"
docmd.runsql "Update DailyClimate set Week_Num = 5 where (month(recdate) = 1 and day(recdate) >= 29);"
docmd.runsql "Update DailyClimate set Week_Num = 5 where (month(recdate) = 2 and day(recdate) <=4);"
docmd.runsql "Update DailyClimate set Week_Num = 6 where (month(recdate) = 2 and day(recdate) >= 5) and (month(recdate) = 2 and day(recdate) <=11);"
docmd.runsql "Update DailyClimate set Week_Num = 7 where (month(recdate) = 2 and day(recdate) >= 12) and (month(recdate) = 2 and day(recdate) <=18);"
docmd.runsql "Update DailyClimate set Week_Num = 8 where (month(recdate) = 2 and day(recdate) >= 19) and (month(recdate) = 2 and day(recdate) <=25);"
docmd.runsql "Update DailyClimate set Week_Num = 9 where (month(recdate) = 2 and day(recdate) >= 26);"
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docmd.runsql "Update DailyClimate set Week_Num = 9 where (month(recdate) = 3 and day(recdate) <=
4);"
docmd.runsql "Update DailyClimate set Week_Num = 10 where (month(recdate) = 3 and day(recdate) >=
5) and (month(recdate) = 3 and day(recdate) <=11);"
docmd.runsql "Update DailyClimate set Week_Num = 11 where (month(recdate) = 3 and day(recdate) >=
12) and (month(recdate) = 3 and day(recdate) <=18);"
docmd.runsql "Update DailyClimate set Week_Num = 12 where (month(recdate) = 3 and day(recdate) >=
19) and (month(recdate) = 3 and day(recdate) <=25);"
docmd.runsql "Update DailyClimate set Week_Num = 13 where (month(recdate) = 3 and day(recdate) >=
26);"
docmd.runsql "Update DailyClimate set Week_Num = 13 where (month(recdate) = 4 and day(recdate)
<=1);"
docmd.runsql "Update DailyClimate set Week_Num = 14 where (month(recdate) = 4 and day(recdate) >=
2) and (month(recdate) = 4 and day(recdate) <=8);"
docmd.runsql "Update DailyClimate set Week_Num = 15 where (month(recdate) = 4 and day(recdate) >=
9) and (month(recdate) = 4 and day(recdate) <=15);"
docmd.runsql "Update DailyClimate set Week_Num = 16 where (month(recdate) = 4 and day(recdate) >=
16) and (month(recdate) = 4 and day(recdate) <=22);"
docmd.runsql "Update DailyClimate set Week_Num = 17 where (month(recdate) = 4 and day(recdate) >=
23) and (month(recdate) = 4 and day(recdate) <=29);"
docmd.runsql "Update DailyClimate set Week_Num = 18 where (month(recdate) = 4 and day(recdate) >=
30);"
docmd.runsql "Update DailyClimate set Week_Num = 18 where (month(recdate) = 5 and day(recdate)
<=6);"
docmd.runsql "Update DailyClimate set Week_Num = 19 where (month(recdate) = 5 and day(recdate) >=
7) and (month(recdate) = 5 and day(recdate) <=13);"
docmd.runsql "Update DailyClimate set Week_Num = 20 where (month(recdate) = 5 and day(recdate) >=
14) and (month(recdate) = 5 and day(recdate) <=20);"
docmd.runsql "Update DailyClimate set Week_Num = 21 where (month(recdate) = 5 and day(recdate) >=
21) and (month(recdate) = 5 and day(recdate) <=27);"
docmd.runsql "Update DailyClimate set Week_Num = 22 where (month(recdate) = 5 and day(recdate) >=
28);"
docmd.runsql "Update DailyClimate set Week_Num = 22 where (month(recdate) = 6 and day(recdate)
<=3);"
docmd.runsql "Update DailyClimate set Week_Num = 23 where (month(recdate) = 6 and day(recdate) >=
4) and (month(recdate) = 6 and day(recdate) <=10);"
docmd.runsql "Update DailyClimate set Week_Num = 24 where (month(recdate) = 6 and day(recdate) >=
11) and (month(recdate) = 6 and day(recdate) <=17);"
docmd.runsql "Update DailyClimate set Week_Num = 25 where (month(recdate) = 6 and day(recdate) >=
18) and (month(recdate) = 6 and day(recdate) <=24);"
docmd.runsql "Update DailyClimate set Week_Num = 26 where (month(recdate) = 6 and day(recdate) >=
25);"
docmd.runsql "Update DailyClimate set Week_Num = 26 where (month(recdate) = 7 and day(recdate)
<=1);"
docmd.runsql "Update DailyClimate set Week_Num = 27 where (month(recdate) = 7 and day(recdate) >=
2) and (month(recdate) = 7 and day(recdate) <=8);"
docmd.runsql "Update DailyClimate set Week_Num = 28 where (month(recdate) = 7 and day(recdate) >=
9) and (month(recdate) = 7 and day(recdate) <=15);"
docmd.runsql "Update DailyClimate set Week_Num = 29 where (month(recdate) = 7 and day(recdate) >=
16) and (month(recdate) = 7 and day(recdate) <=22);"
docmd.runsql "Update DailyClimate set Week_Num = 30 where (month(recdate) = 7 and day(recdate) >=
23) and (month(recdate) = 7 and day(recdate) <=29);"
docmd.runsql "Update DailyClimate set Week_Num = 31 where (month(recdate) = 7 and day(recdate) >=
30);"
docmd.runsql "Update DailyClimate set Week_Num = 31 where (month(recdate) = 8 and day(recdate)
<=5);"
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docmd.runsql "Update DailyClimate set Week_Num = 32 where (month(recdate) = 8 and day(recdate) >= 6) and (month(recdate) = 8 and day(recdate) <=12);"
docmd.runsql "Update DailyClimate set Week_Num = 33 where (month(recdate) = 8 and day(recdate) >= 13) and (month(recdate) = 8 and day(recdate) <=19);"
docmd.runsql "Update DailyClimate set Week_Num = 34 where (month(recdate) = 8 and day(recdate) >= 20) and (month(recdate) = 8 and day(recdate) <=26);"
docmd.runsql "Update DailyClimate set Week_Num = 35 where (month(recdate) = 8 and day(recdate) >= 27);"
docmd.runsql "Update DailyClimate set Week_Num = 35 where (month(recdate) = 9 and day(recdate) <=2);"
docmd.runsql "Update DailyClimate set Week_Num = 36 where (month(recdate) = 9 and day(recdate) >= 3) and (month(recdate) = 9 and day(recdate) <=9);"
docmd.runsql "Update DailyClimate set Week_Num = 37 where (month(recdate) = 9 and day(recdate) >= 10) and (month(recdate) = 9 and day(recdate) <=16);"
docmd.runsql "Update DailyClimate set Week_Num = 38 where (month(recdate) = 9 and day(recdate) >= 17) and (month(recdate) = 9 and day(recdate) <=23);"
docmd.runsql "Update DailyClimate set Week_Num = 39 where (month(recdate) = 9 and day(recdate) >= 24) and (month(recdate) = 9 and day(recdate) <=30);"
docmd.runsql "Update DailyClimate set Week_Num = 40 where (month(recdate) = 10 and day(recdate) >= 1) and (month(recdate) = 10 and day(recdate) <=7);"
docmd.runsql "Update DailyClimate set Week_Num = 41 where (month(recdate) = 10 and day(recdate) >= 8) and (month(recdate) = 10 and day(recdate) <=14);"
docmd.runsql "Update DailyClimate set Week_Num = 42 where (month(recdate) = 10 and day(recdate) >= 15) and (month(recdate) = 10 and day(recdate) <=21);"
docmd.runsql "Update DailyClimate set Week_Num = 43 where (month(recdate) = 10 and day(recdate) >= 22) and (month(recdate) = 10 and day(recdate) <=28);"
docmd.runsql "Update DailyClimate set Week_Num = 44 where (month(recdate) = 10 and day(recdate) >= 29);"
docmd.runsql "Update DailyClimate set Week_Num = 44 where (month(recdate) = 11 and day(recdate) <=4);"
docmd.runsql "Update DailyClimate set Week_Num = 45 where (month(recdate) = 11 and day(recdate) >= 5) and (month(recdate) = 11 and day(recdate) <=11);"
docmd.runsql "Update DailyClimate set Week_Num = 46 where (month(recdate) = 11 and day(recdate) >= 12) and (month(recdate) = 11 and day(recdate) <=18);"
docmd.runsql "Update DailyClimate set Week_Num = 47 where (month(recdate) = 11 and day(recdate) >= 19) and (month(recdate) = 11 and day(recdate) <=25);"
docmd.runsql "Update DailyClimate set Week_Num = 48 where (month(recdate) = 11 and day(recdate) >= 26);"
docmd.runsql "Update DailyClimate set Week_Num = 48 where (month(recdate) = 12 and day(recdate) <=2);"
docmd.runsql "Update DailyClimate set Week_Num = 49 where (month(recdate) = 12 and day(recdate) >= 3) and (month(recdate) = 12 and day(recdate) <=9);"
docmd.runsql "Update DailyClimate set Week_Num = 50 where (month(recdate) = 12 and day(recdate) >= 10) and (month(recdate) = 12 and day(recdate) <=16);"
docmd.runsql "Update DailyClimate set Week_Num = 51 where (month(recdate) = 12 and day(recdate) >= 17) and (month(recdate) = 12 and day(recdate) <=23);"
docmd.runsql "Update DailyClimate set Week_Num = 52 where (month(recdate) = 12 and day(recdate) >= 24) and (month(recdate) = 12 and day(recdate) <=31);"
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